

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

IMMERSION CORPORATION,

Plaintiff,

v.

SAMSUNG ELECTRONICS AMERICA, INC. and
SAMSUNG ELECTRONICS CO., LTD.,

Defendants.

Case No. 2:17-cv-00572-JRG
(LEAD CASE)

Case No. 2:18-cv-00055-JRG

JURY TRIAL DEMANDED

THE SAMSUNG DEFENDANTS' RESPONSIVE CLAIM CONSTRUCTION BRIEF

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INTRODUCTION

The parties' claim construction disputes are limited to three issues—two of which Immersion pressed against HTC in District of Delaware and lost. There, the District of Delaware adopted Samsung's exact proposed construction for the "directly" limitation, and also granted a motion for summary judgement of no direct infringement. The District of Delaware also rejected Immersion's efforts to include additional components with "touch input device" / "touch screen" as "too broad." Yet, Immersion presses its claims against Samsung using the same theories. Because Samsung's proposed constructions find ample support within the intrinsic record, the Court should reject Plaintiff's litigation-driven positions and construe the disputed terms consistent with Samsung's proposed constructions.

I. OVERVIEW OF THE TECHNOLOGY

The patents at issue relate to providing force or tactile feedback to a user of a computing device. At the time the asserted patents, mice, trackballs, touchpads, and touchscreens were often used to provide input to applications within a graphical environment. '846 patent at 1:23-32. Per the asserted patents, one problem with such means of input was that they did not provide haptic feedback. *Id.* at 1:56-62. To provide force or tactile feedback to the user, the Rosenberg patents disclose one or more actuators capable of providing haptic feedback such as pulses, vibrations, and textures coupled to the input device. *Id.* at Abstract. As a user interacts with a graphical environment using the input device, a processor controls the actuators to output haptic effects signifying certain events to the user, such as pressing a button or moving a cursor to a certain region of the graphical environment. *Id.* at 11:23-14:19.

II. APPLICABLE LEGAL PRINCIPLES

The first step in construing a patent is to examine a patent's intrinsic evidence to define the patented invention's scope. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313–14 (Fed. Cir.

2005). Intrinsic evidence includes the claims, specification, and the prosecution history. *Id.* at 1312–13. Extrinsic evidence is “less significant than the intrinsic record in determining the legally operative meaning of claim language,” but the Court may rely on it to “shed useful light on the relevant art.” *Id.* at 415 F.3d at 1317 (quotation omitted). Expert testimony may be suitable for determining the particular meaning of claim language, but it is “less reliable than the patent and its prosecution history in determining how to read claim terms.” *Id.* When “patents all derive from the same parent application and share many common terms, [the court] must interpret the claims consistently across all asserted patents.” *NTP, Inc. v. Research In Motion, Ltd.*, 418 F.3d 1282, 1293 (Fed. Cir. 2005) *abrogated on other grounds by IRIS Corp. v. Japan Airlines Corp.*, 769 F.3d 1359, 1361 n.1 (Fed. Cir. 2014).

III. DISPUTED CLAIM CONSTRUCTIONS

A. “outputting a force directly on said touch input device” (’846 patent)

Samsung proposes that the Court construe this term as “outputting a force on the touch input device without intervening structure.” The claims, specification, and prosecution history all support this construction, which is also the plain meaning. Immersion, however, seeks to interpret “directly” as somehow meaning either directly *or indirectly*. Unsurprisingly, Immersion’s proposed construction finds no support in the claims, specification, or prosecution history. *See, e.g.*, Wolfe Decl. at ¶¶ 18-31.¹

- a. Samsung’s proposed construction is the same as that adopted by the District of Delaware in *Immersion Corp. v. HTC Corp*

Immersion previously asserted the ’846 patent against HTC in the District of Delaware. *Immersion Corp. v. HTC Corp.*, 12-259-RGA (D. Del. Mar. 2, 2012). After considering much of the same intrinsic and extrinsic evidence the parties now offer, the Delaware court concluded

¹ The Wolfe Declaration is attached as Exhibit 1.

that “for [an] actuator to impart forces directly, there must be no intervening structure between the touch screen and the actuator,” exactly in line with Samsung’s proposed construction. Ex. 2 *Immersion Corp. v. HTC Corp.*, Dkt. No. 332, Memorandum Opinion at 11-12 (D. Del. Feb. 11, 2015). Issue preclusion prevents Immersion from circumventing this finding.² It is also correct.

- b. The claims, specification, and prosecution history use “directly” to refer to outputting a force without intervening structures

Samsung offers the plain and ordinary meaning of “outputting a force directly on said touch input device,” that is, “outputting a force on the touch input device without intervening structure.”³ Claim 1 of the ’846 patent, for example, recites “at least one actuator coupled to said touch input device,” and then *further* defines how the force is applied to the touch input device, claiming “said actuator outputting a force **directly on** said touch input device”—adding the term “directly” into the limitation itself. The claim itself requires a force to not just somehow be transmitted to the touch input device but be output “directly on” the touch input device. Wolfe Decl. at ¶ 20.

The ’846 patent specification further illustrates term “directly” to describe embodiments having actuators that output a force on the touch input device without intervening structures. Wolfe Decl. at ¶¶ 21-23. For example, Figure 4 of the ’846 patent depicts a “[t]ouchpad 16

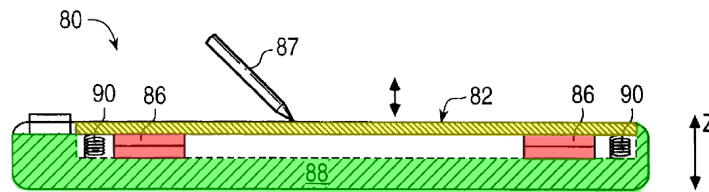
² Issue preclusion, also called collateral estoppel, bars “successive litigation of an issue of fact or law actually litigated and resolved in a valid court determination essential to the prior judgment.” *Taylor v. Sturgell*, 553 U.S. 880, 892 (2008); *Aspex Eyewear, Inc. v. Zeni Optical Inc.*, 713 F.3d 1377, 1382 (Fed. Cir. 2013) (holding that issue preclusion applied to the construction of a claim term where that term was construed in a prior case and its construction was determinative on the issue of infringement thereby resulting in summary judgment on that issue in that case).

³ For example, Exhibit 4, THE AMERICAN HERITAGE DICTIONARY (3d ed., 1996) defines “directly” to mean “without anyone or anything intervening.” Exhibit 5, MERRIAM-WEBSTER’S COLLEGIATE DICTIONARY (10th ed., 1997) similarly defines the term as being “in immediate physical contact” and also gives a relevant definition of “direct,” meaning “marked by [the] absence of an intervening agency, instrumentality, or influence.”

[that] is directly coupled to a grounded piezoelectric actuator 42.” ’846 patent at 8:23-27; Wolfe Decl. at ¶ 21. As illustrated in Figure 4, the actuator 42 (red) is directly contacting the touchpad 16 (yellow) without intervening structures:



Id. at Fig. 4. The specification continues that “[s]ince the touchpad 16 is directly coupled to the actuator 42, any produced forces are **directly applied** to the touchpad 16.” *Id.* at 8:46-48 (emphasis added). As another example, in the ’846 patent’s touchscreen embodiment depicted in Figure 8B, “the actuators 86 are directly coupled to the touch screen 82 similarly to the touchpad embodiment[s]” of Figures 3 and 4 and are shown contacting the touch screen without intervening structures:

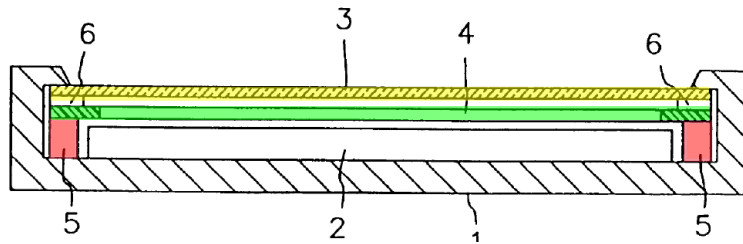


Id. at 16:54-56; Fig. 8B (touch screen 82 highlighted in green, actuators 86 highlighted in red, housing 88 highlighted in green); Wolfe Decl. at ¶ 23. Indeed, nowhere in describing any embodiment does the ’846 patent ever describe that forces transmitted through an intervening structure is direct. *Id.* at ¶¶ 21-24. To the contrary, where a force is applied through a structure to the touch input device then the ’846 patent conspicuously fails to describe force as directly applied to the touch input device. Wolfe Decl. ¶¶ 22 (discussing Fig. 6 of the ’846 patent); ’846 patent at Fig. 6, 10:4-48.

The prosecution histories of the ’846 patent family again demonstrate the plain meaning of “outputting a force directly on said touch input device” to mean “outputting a force on the

touch input device without intervening structure.”—in not one but two separate applications. Wolfe Decl. ¶¶ 25-26.

First, the prosecution of U.S. Patent No. 7,592,999, which claims priority to the ’846 patent, confirms the ordinary meaning. Wolfe Decl. at ¶ 25. There, an examiner rejected Immersion’s claims requiring “actuator configured to impart first force directly on the touch screen” in three successive office actions based on the combination of the Fujita prior art in view of the Kwon prior art. Ex. 6 ’999 Patent Pros. History, Office Action at 2-3 (Oct. 31, 2007); Ex. 7 ’999 Patent Pros. History, Office Action at 2-4 (May 2, 2008); Ex. 8 ’999 Patent Pros. History, Office Action at 3-5 (Nov. 24, 2008); Ex. 3 *Immersion Corp. v. HTC Corp.*, Dkt. No. 248, Joint Claim Construction Brief at 49 (D. Del. Oct. 10, 2014). The examiner reasoned that Fujita itself was insufficient, thus requiring the combination with Kwon, because Fujita did not satisfy the “actuator configured to impart [a] force directly on the touch screen” limitation. *Id.* For clarity, shown below is Fujita’s Figure 1 which shows a “touch panel” 3 highlighted in yellow, a “touch-panel support plate” 4 highlighted in green, and “driving portion” 5 highlighted in red:



Ex. 9 Fujita, U.S. Patent No. 6,118,435 at Fig. 1. The “driving portion” is actuated by the driving signal to drive the “touch panel” into displacement thereby providing an operator with a tactile feedback. *Id.* Accordingly, the “driving portion” that provides tactile feedback is separated from the touch screen by at least a “touch-panel support plate.” In reasoning that Fujita alone was insufficient, the examiner first noted that “disposed under the touch panel (3)

and the touch-panel support plate (4) is at least one driving portion (5) for mechanically driving the touch panel (3) and the like thereby to give a tactile feedback, such as vibration, to an operator of the touch panel (3)” then concluded “[w]hile Fujita teaches a driving portion (5) being connected to touch panel (3) as shown in Fig. 3, does not specifically teach a first actuator configured to impart first *force directly on the touch screen.*” Ex. 6 ’999 Patent Pros. History, Office Action at 2-3 (Oct. 31, 2007). *See also* Ex. 7 ’999 Patent Pros. History, Office Action at 2-4 (May 2, 2008) (same); Ex. 8 ’999 Patent Pros. History, Office Action at 3-5 (Nov. 24, 2008) (same); Ex. 3 *Immersion Corp. v. HTC Corp.*, Dkt. No. 248, Joint Claim Construction Brief at 49 (D. Del. Oct. 10, 2014). The examiner’s statements directly contradict Immersion’s current litigation inspired positions that that a force can be output directly through intervening structures. Prior to litigation, the applicant apparently agreed with this interpretation and failed to disagree with the examiner’s understanding. Ex. 10 ’999 Patent Pros. History, 2008-08-01 Amendment and/or Response to Office Action at p. 4; Ex. 11 ’999 Patent Pros. History, 2009-04-23 Amendment and Request for Reconsideration at pp. 5-6.

Just three months later, during prosecution of U.S. Patent No. 7,728,820, Immersion itself differentiated the same prior art by arguing that an actuator “directly” coupled to a touch screen requires coupling between the two without any intervening structure. Ex. 12 ’820 Patent Pros. History, 2008-08-13 Amendment at 4 (“[D]riving portion 5 and touch panel 3 are separated by a press detection switch 6 and touch panel support 4 in Fujita et al. The contention in the Office Action that, under a ‘broadest reasonable manner’ interpretation, such separation in Fujita et al. can simply be ignored stretches the broadest reasonable manner interpretation mandate beyond acceptable limits.”); *see also* Wolfe Decl. at ¶ 26. Immersion then went on to say that “The MPEP cautions that ‘[t]he words of a claim must be given their ‘plain meaning’ unless such

meaning is inconsistent with the specification” and “[t]he Examiner’s interpretation by these standards is unreasonable because it completely ignores the term ‘directly,’ which is not shown Fujita et al. [sic].” Ex. 12 ’820 Patent Pros. History, 2008-08-13 Amendment at 4.

Had the applicants intended to capture the indirect application of force in claim 1, they could have easily used other language instead of requiring that the actuator output a force “directly on” the touch input device. Wolfe Decl. at ¶ 20. They did not and they cannot rewrite the claims to do so. *See Enzo Biochem, Inc. v. Applera Corp.*, 599 F.3d 1325, 1333 (declining to modify a claim construction to include reference to “hybridization” because “[t]he applicants knew how to claim a linkage group that does not substantially interfere with hybridization, as they did in the [related] patents, but specifically omitted that language from the claims of the [patent at issue]”).

c. Immersion’s offered support is irrelevant to the ’846 patent and its technology

In an effort to avoid the plain meaning and intrinsic evidence, Immersion cobbles together purported support from numerous independent technical fields to offer a construction in which “directly” means, in effect, “indirectly.”⁴ *See* Wolfe Decl. at ¶¶ 28-31.

First, Immersion incorrectly insists that “directly” has a well-settled meaning within the field of haptics to include intermediary structure. To do so, Immersion relies almost exclusively on the testimony of its expert who offers evidence not consistent with the intrinsic record. Such an approach is disfavored—“conclusory, unsupported assertions by experts as to the definition of a claim term are not useful to a court.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1318 (Fed. Cir.

⁴ Immersion has not argued that it was its own lexicographer in defining “directly” as it now urges the Court to construe it. *See* 35 U.S.C. § 112(b); *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014) (“To act as its own lexicographer, a patentee must clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning” so as to “clearly express an intent to redefine the term.”).

2005). Here, the offered Immersion expert testimony is “clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history.” *Phillips*, 415 F.3d at 1318 (citing *Key Pharms. V. Hercon Labs. Corp.*, 161 F.3d 709, 716 (Fed. Cir. 1998)).

Second, Immersion alleges Samsung’s construction is inconsistent with the claims but itself omits the applicable claim language. Immersion reasons that “at least one actuator coupled to said touch input device” does not require the actuator be *directly coupled* to the touch input device. This argument conflates two different limitations—“at least one actuator coupled to said touch input device” and “said actuator outputting a force directly on said touch input device.” ’846 patent, claim 1. In addition to requiring that the actuator is coupled to the touch input device, the claims include an additional requirement that the actuator output forces “directly” on the touch input device. But while Immersion offers a definition of “coupled” it fails to offer a definitions of the term “directly”—ignoring the distinct requirement that the actuator output the force “directly” on the touch input device. Immersion also asserts “[t]he claims require only that that the actuator impart or output a force ‘directly,’ not that the actuator be coupled ‘directly’ (that is, physically attached) to the touch input device or touch screen.” Dkt. No. 72 at 6 (“D72”). But the specification itself states that imparting forces directly on the touch input device are a result of direct coupling. ’846 patent at 8:46-48 (“Since the touchpad 16 is directly coupled to the actuator 42, any produced forces are directly applied to the touchpad 16.”). Further, Immersion’s argument highlights its own inconsistency—***Immersion offers two different meanings*** for the term “directly.” According to Immersion, “directly” means without intervening structures when referring to coupling but means without intervening structures or indirectly through sufficiently rigid bodies when applied to outputting a force. *PODS, Inc. v.*

Porta Stor, Inc., 484 F.3d 1359, 1366 (Fed. Cir. 2007) (“We apply a ‘presumption that the same terms appearing in different portions of the claims should be given the same meaning unless it is clear from the specification and prosecution history that the terms have different meanings at different portions of the claims.’” (citations omitted)).

Third, Immersion asserts the specification demonstrates that the inventors were aware of the principle that coupling via rigid bodies allowed for direct transmission of forces, whereas coupling via compliant materials may not. Immersion, however, fails to point to a single example where the specification describes transferring forces through supposedly rigid bodies as imparting forces directly on a device. Notably, while Immersion cites to 8:36-40, it does not quote the portion that allegedly demonstrates coupling via rigid bodies is direct transmission. In fact, Immersion cannot quote such a portion, because the specification has no such description.

Immersion also asserts U.S. Patent No. 6,088,019 shows a system in which an actuator outputs forces “directly” through rigid bodies.⁵ It does not. The ’019 patent describes outputting a force “directly” on an object as doing so without intervening structures: “In preferred embodiments, the actuator outputs the force *directly on* the user manipulatable object, such that no transmission system is required to be provided between the actuator and the user manipulatable object, thus greatly reducing the cost of the device.” ’019 patent at 2:37-41 (emphasis added). Overlooking this, Immersion relies on claim 16 of the ’019 patent, which states: “16. A force feedback mouse device as recited in claim 1 wherein said actuator outputs said force directly on said mouse housing, wherein no transmission system is provided between said actuator and said mouse housing.” But claim 16 does not describe any intervening structure—in fact it claims there is no transmission system provided between the actuator and

⁵ The ’019 patent is attached as Exhibit 17.

mouse housing. Immersion asserts, however, that claim 16 relates to an embodiment shown in Figure 4 of the '019 patent having two members 162, 164 between the actuator and the mouse housing. D72 at 7-8, '019 patent at 14:26-55. This is flawed in two respects. First, nowhere in the description of Figure 4 does the term “directly” ever appear. '019 patent at 13:31-16:1. Accordingly the description of Figure 4 does not support Immersion’s position. Second, Claim 16 does not claim an intervening structure thus Claim 16 does not relate to whether supposed application of force through an intervening structure may be direct. Immersion further claims a “direct-drive” system may include intervening structures, a claim for which Immersion provides no citation. But the term “direct-drive” only appears once in the '019 patent and nowhere does it mention intervening structures. *Id.* at 9:35-44. Finally, in line with the '019 patent, Immersion asserts that a “transmission system (e.g., gearbox, pulleys)” applies force indirectly. But Immersion reasons that it is indirect because it does not accurately transmit forces. D72 at 4-5 (noting transmission systems “are designed to attenuate, amplify, or otherwise the forces.”). Immersion, however, ignores that the '019 patent describes that transmission systems are provided to “accurately transmit forces from the actuators to the user manipulandum and to allow accurate sensing of the motion of the user object.” '019 patent 1:67-2:4. It is not the attenuation of force that makes the transmission system indirect—because in the '019 there is no attenuation—it is the presence of an intermediary structure.⁶ Wolfe Decl. at ¶¶ 28-31.

⁶ In a sign that Immersion lacks intrinsic support for its construction, Immersion attempts to use a single appearance of the term “direct-drive” in a reference incorporated in the '846 Patent to justify relying on the entirely separate field of robotics to support its claim construction position. But the insistence that robotic arm technology is from the “field of ‘touch input devices’” or the “field of haptics” because each requires an understanding of basic physics and mechanics would be an overly broad one that gives no meaningful scope to the relevant art. Ex. 1 Wolfe Decl. at ¶ 31. Furthermore, Dr. Howe’s reliance on a “direct-drive robot joint” having a “motor shaft [that] is directly connected to the link that conveys the motor force/torque to the user-

Fourth, Immersion asserts U.S. Patent No. 7,548,232 shows a system in which an actuator outputs forces “directly” through rigid bodies.⁷ Again, it does not. As an initial matter, the ’232 is a continuation in part and adds new matter not found in the ’846 patent, including the portions Immersion relies upon. The portion of the ’232 patent Immersion relies upon further does not use the language of the ’846 claims—“outputting a force directly on said touch input device.” When discussing the forces, the ’232 patent fails to say the transducer applies a force directly on said touch input device, instead stating “the ceramic element pushes against the bottom housing 250, causing the diaphragm 231 to push against the spacer 240, which in turn pushes against the touchpad element 238.” ’232 patent at 18:44-55. Per the ’232 patent, the transducer thus does not directly push on the touchpad but pushes on something else, which itself pushes on the touchpad. *See* Wolfe Decl. at ¶ 23. The ’232 patent does, however, identify an alternative embodiment where the transducer does directly apply a force to the touch pad. In that alternative embodiment, the spacer 240 is no longer between the transducer and the touch pad, such that the transducer now “directly impacts the touchpad element 238.” ’232 patent at 19:33-40 (“In an alternate embodiment, the piezoelectric transducer and spacer can be reversed in orientation so that the spacer 240 contacts the bottom housing 250, the diaphragm 231 rests on the spacer 240, the ceramic element 242 is positioned above the diaphragm, and the ceramic element *directly impacts* the touchpad element 238 or a pad coupled to the touchpad member when it is oscillated by the driving signal.”) (emphasis added).

manipulatable object” is precisely the kind of “rotary actuator [that] outputs a torque in a rotary degree of freedom on [a] shaft, which is converted to linear force and motion through a transmission” that the ’019 patent specifically refers to as not providing a force “directly” on an object. ’019 Patent at 11:62-67.

⁷ The ’232 patent is attached as Exhibit 18.

- d. Immersion's proposed construction creates additional claim construction issues

Finally, Immersion's proposed construction adds numerous structural limitations that only serve to confuse the issues. By attempting to expand the meaning of "directly" applied forces to include those applied by an actuator through bodies without "*significant intervening compliant structure*," Immersion fails to clearly delineate when a force is "directly" applied by an actuator. D72 at 5. Immersion has offered no guidance how a person of skill could determine whether a given structure is *significantly* compliant, and the '846 patent itself says nothing on the subject. Wolfe Decl. at ¶ 30.

Instead, Immersion merely provides examples of structures that might be compliant or not compliant, leaving the meaning of "without significant intervening compliant structure" far from certain. Wolfe Decl. at ¶ 31. Without any support from the '846 patent, Immersion claims that springs, foam, gearboxes, and pulleys are all examples of "compliant" structures that are not "rigid," while glue and screws are sufficiently "rigid." D72 at 4-6. But the '019 patent as described above includes a transmission system, what Immersion describes as gears and pulleys, but states that the system accurately transmits forces. Thus, it is not clear why Immersion excludes such a structure. Thus, Immersion's proposed construction introduces, rather than resolves, claim construction issues, and denies others a fair understanding of the meaning of "directly" in the claims of the '846 patent.⁸ See Wolfe Decl. at ¶ 30.

For all of these reasons, the Court should adopt Samsung's proposed construction of "outputting a force directly on said touch input device."

⁸ Immersion attempts to rely inventor testimony not taken in this case. Immersion quotes from inventor Louis Rosenberg's testimony that "nothing in the world is ever direct." If true, such a statement would mean that any "directly" applied forces can never be satisfied. Mr. Rosenberg's statements therefore fly in the face of Immersion's contentions in this case.

B. “touch input device” (’846 patent, claims 1, 7, 16, and 19)/ “touch screen” (’720 patent, claims 10, 13, and 19)’181 patent, claims 1 and 8)⁹

The parties agree that the claimed “touch input device” is a “device that allows a user to provide input by touching and area on the device.” D72 at 10. But the parties dispute whether the scope of the claimed “touch input device” and “touch screen” includes additional, extraneous structures such as the bezel, chassis, or controller. As the claims, specification, prosecution history, and extrinsic evidence all show, it does not. *See generally* Wolfe Decl. ¶¶ 32-52.

- a. Immersion’s proposed construction is contrary to the District of Delaware Markman Order in *Immersion Corp. v. HTC Corp*

Immersion previously asserted the ’846 patent against HTC in the District of Delaware. After considering much of the same evidence the parties now offer, the Delaware Court rejected Immersion’s current position as “too broad.” Ex. 2 *Immersion Corp. v. HTC Corp.*, 12-259-RGA (D. Del. Feb. 11, 2015), Memorandum at 5-6 (“The ‘bezel’ or ‘chassis’ is a rigid body that binds some or all of the other layers of the device together. . . . The Court does not find that the bezel and controller are components of the touch screen/touch input device.”). As with the term “directly,” Immersion now seeks to circumvent this finding, which should also be precluded under the doctrine of issue preclusion.

- b. The claimed “touch input device” and “touch screen” do not include the bezel, chassis, housing, or controller

The patent repeatedly refers to the same collection of components when describing the “touch input device”: namely a touch surface, display, and touch sensor. ’846 patent at Abstract,

⁹ Because the issues related to construing the claim terms “touch input device” (’846 patent, Claim 1, 7, 16, 19) and “touch screen” (’720 patent, claim 10, 13, 19; ’181 patent, claim 1 and 8) are the same, and the ’846, ’720, and ’181 patents share substantially the same specification, Samsung discusses them here together.

2:20-22, 2:54-56, 4:39-42, 16:62-63.¹⁰ This is the portion of the construction the parties agree on. But, as discussed in more detail below, the patents discuss the touch input device as a component separate and distinct from the housing and controller, which should be excluded from the construction.¹¹

- i. The claimed “touch input device” and “touch screen” do not include the bezel, chassis, or housing

The claims themselves support Samsung’s construction by clarifying that the “touch input device” and “touch screen” are separate and distinct from the housing elements. Wolfe Decl. at ¶ 35. For example, Claim 1 of the ’846 patent (per the certificate of correction) states “a touch input device integrated ***in a housing*** of said portable computer.” (emphasis added). *See also* ’720 patent, claim 14; ’181 patent, claim 16.

Similarly, the ’846 patent specification repeatedly describes the “touch input device” as a component separate and distinct from the bezel or chassis. For example, the “touch input device can be integrated ***in a housing*** of the computer or handheld device, or provided in a housing that is separate from the computer.” ’846 patent at 2:22-25 (emphasis added); *see also id.* at 3:64-4:2. By describing the touch input device or the touch screen in relation to the another structure, the housing, the patent explains that the touch screen and the housing that it resides within—including the bezel and chassis—are separate structures. Wolfe Decl. at ¶¶ 36-40. The ’846 patent also differentiates between the touch input device and the housing by haptics that are applied to each. ’846 patent at 5:66-6:4 (“This allows the host to control two different tactile

¹⁰ The ’846, ’720, and ’181 patents largely share the same specification. For efficiency, the citations will be limited to the ’846 patent but should be understood to include the corresponding disclosures in the other patents.

¹¹ Immersion claims a negative limitation should not be included in the construction. Although incorrect based on the intrinsic record, Samsung understands that the Court may prefer to resolve the parties’ dispute as to whether the specific identified structure should be excluded from the claimed “touch input device” or “touch screen” in the context of summary judgement.

sensations simultaneously to the user; for example, a vibration of a low frequency can be conveyed through the housing to the user and a higher frequency vibration can be conveyed to the user through the touchpad 16.”) In this way, the patents clarify that the haptics effects applied to the housing of the device are independent from those applied to the touch input device. Wolfe Decl. at ¶ 39. Structural parts such as the housing, bezel, and chassis of the phone are not part of the claimed “touch input device” or “touch screen.” Wolfe Decl. at ¶¶ 36-40. For example, Figure 8B, illustrated above in Section IV.A.b. shows “touch screen 82” (yellow) as entirely separate from “housing 88” (green). ’846 patent at Fig. 8B.

Further, the extrinsic evidence supports Samsung’s construction. Dictionary definitions available at the time of the patent illustrate that (1) a touch input device or touch screen is comprised of a touch surface, a display, and/or touch sensors and (2) that the components of the touch input device or touch screen are those that allow a user to provide input by touching an area on the device. Wolfe Decl. at ¶ 52. For example, the Microsoft Press Computer Dictionary defines a “touch pad,” as a “variety of graphics tablet that uses pressure sensors, rather than electromagnetics used in more expensive high-resolution tables, to track the position of a device on its surface.” Ex. 13 MICROSOFT PRESS COMPUTER DICTIONARY 472 (3d ed. 1997). The IEEE Standard Dictionary of Electric and Electronics Terms defines a “touch panel” as a “touch-sensitive input device that allows users to interact with a computer system *by touching an area on the panel.*” Ex. 14 IEEE STANDARD DICTIONARY OF ELECTRICAL & ELECTRONICS TERMS 1123 (6th ed. 1997). The same dictionary defines “touch screen” as a “display screen equipped with a touch panel in front of it such that users may interact with a computer system *by touching an area on the panel.*” *Id.*

Immersion's interpretation of the extrinsic evidence continues to incorrectly incorporate structures that are not part of the touch input device. For example, Immersion asserts that one of skill in the art would understand that the bezel is part of the touch input device at least because "the illustration accompanying the definition of 'touch screen' in the IBM Dictionary of Computing shows a feature that appears to be a bezel." *See* D72 at 14-15. The illustration also includes a housing (as well as a hand), but Immersion does not include this similar, related structure despite stating that features that "provide mechanical stability" to the touch input device would be understood to be part of the touch input device. The dictionary definition accompanying the illustration makes no mention of the bezel being part of the touch screen. Instead, the definition—which Immersion omits for this point—states that a touch screen is a "display device that allows the user to interact with a computer system by touching an area on its screen" or a "touch-sensitive display screen on a visual display unit." Ex. 15 IBM DICTIONARY OF COMPUTING 697 (10th ed. 1993). The definition reinforces that the touch input device includes the features that allow a user to input information, and not mere supportive structures or housings. Wolfe Decl. at ¶ 52.

- ii. The claimed touch input device and touch screen do not include a "controller"

Immersion wrongly broadens "touch input device" and "touch screen" to include a controller or microprocessor. Conversely, the intrinsic record, prior claim construction orders, and the extrinsic evidence all support Samsung's construction that these are separate components. *See* Wolfe Decl. at ¶¶ 41-52. Immersion ignores the majority of the patents' written descriptions, instead opting to rely on an incorrect interpretation of a single passage of the asserted patents and passages from other patents that are unrelated to touch input devices and,

in any event, reinforce Samsung's position. Immersion also relies on an unpersuasive smattering of dictionary definitions, none of which address the actual dispute at issue. Wolfe Decl. at ¶ 52.

The intrinsic record supports Samsung's construction, clarifying that the "touch input device" or "touch screen" does not include a controller. Wolfe Decl. at ¶¶ 41-46. As an initial matter, the patent says that the "touch input device can be a touchpad," and defines the term "touchpad" as "the surface of the touchpad 16 as well as any sensing apparatus included in the touchpad unit." '846 patent at Abstract, 4:39-42. The patent also describes the term "touch screen" as "a 'touch screen' that includes sensors which allow the user to input information to the computer device 80 by physically contacting the screen 80 (i.e. it is another form of planar 'touch device' similar to the touchpad 16)." *Id.* at 15:65-16:3.

The patents disclose processors or microprocessors that either form part of the host computer or are intermediary processors separate from both the host processor and the touch input device. For example, the patents explain that "[i]n operation, the touchpad 16 inputs coordinate data to the main microprocessor(s) of the computer 10." '846 patent at 4:6-7; Wolfe Decl. at ¶ 42. Further, "[t]he touchpad 16 can include circuitry necessary to report control signals to the microprocessor of the host computer 10 and to process command signals from the host's microprocessor." '846 patent at 6:24-27. This circuitry includes "appropriate sensors (and related circuitry)" and "circuitry that receives signals from the host." *Id.* at 6:27-32.

In *other* embodiments, "a separate, local microprocessor can be provided *for* the touchpad 16 to both report touchpad sensor data to the host and/or to carry out force commands received from the host." '846 patent at 6:32-35 (emphasis added). This alternative embodiment refers to an intermediary microprocessor for processing signals between the touchpad and the host microprocessor. *Id.* at 6:32-54; Wolfe Decl. at ¶ 43. The '846 patent explains that a "touch

device microprocessor separate from the main processor of the computer” receives control signals from the host computer and controls the actuators based on those signals. ’846 patent at 2:36-40. The intermediate controller is capable of processing the same signals that the touch input device would send to the host processor in the same way. *Id.* at 15:25-44. One of skill, in reading the ’846 patent, would understand that it teaches an intermediary controller independent from the touch input device. Wolfe Decl. at ¶¶ 43-44. Indeed, this is evident in the words used—it does not define the local microprocessor *as part of* the touchpad, rather it is provided *for* the touchpad to report the touchpad sensor data.

Immersion also seeks to recapture embodiments and scope that it distinguished during prosecution. Wolfe Decl. at ¶¶ 45-46. During the reexamination of the ’720 patent—which shares the same specification as the ’846 and ’181 patents—Immersion argued that the invention taught by Japanese Patent Application Publication No. 11-212725 to Tsuji et al. (hereinafter “Tsuji”) lacked a “a touch screen that is operative to output a first signal indicative of a contacted location.” Ex. 16 Reexamination File History of the ’720 Patent, 2013-06-03 Amendment in Response to Office Action Dated April 2, 2013 at 7, 17 (hereinafter “’720 Reexam”). Tsuji teaches a component that accepts signals from the touch panel, processes those signals into coordinate data, and then forwards the coordinate data to other components for determining any related action. Wolfe Decl. at ¶¶ 45-46. Immersion argued that such a component is not part of the touch screen, but rather is part of the device’s overall control unit. Ex. 16 ’720 Reexam at 7, 17. In other words, Immersion argued that under the ordinary meaning of the claims, a controller

or microprocessor utilized in conjunction with a touch panel to generate coordinate-based data would fall outside the scope of the claimed “touch screen.”¹²

Contrary to Immersion’s claims, the “touchpad controller” is not part of the touch input device itself. The “touchpad controller” taught by the patents is so denoted because it acts as the co-processor for the touchpad functions. For example, the “touchpad microprocessor, if present, may alternatively interpret the function associated with the user contact location and report appropriate signal or data to the host processor (Such as position coordinates or a button signal), thus keeping the host processor ignorant of the lower level processing.” *Id.* at 15:34-39; Wolfe Decl. at ¶¶ 43-44. The purpose of the microprocessor or touchpad microprocessor described in the patents is to assume and reduce the computational burdens of the host processor, and not as a necessary component of the touch input device or touch screen. Wolfe Decl. at ¶¶ 43-44.

Immersion’s only citation from the ’846 patent in support of this aspect of its construction is inapposite. Immersion suggests that, because the patent describes that “[t]he touchpad 16 can include circuitry necessary to report control signals to the microprocessor of the host computer 10,” and later, in a separate embodiment, describes a microprocessor that can receive signals from the touch input device, that the separate microprocessor in the second embodiment must be the circuitry described previously. Yet, nowhere does the patent say this “related circuitry” is the microprocessor. To the contrary, it says this circuitry is related to the sensors (which everyone agrees is part of the touch screen) and its ability to report what is sensed to a separate “microprocessor.” ’846 patent at 17:2-6; Wolfe Decl. at ¶ 44.

¹² To the extent Immersion claims it was not offering the plain meaning in distinguishing Tsuji, then its statements amount to an unequivocal and unambiguous disavowal of including a controller in the touch screen / touch input device—it expressly claimed a controller was not part of the touch screen in distinguishing prior art. *See Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013).

Similarly, the patents incorporated by reference into the '846 patent and identified by Immersion do no support Immersion's construction. Wolfe Decl. at ¶¶ 47-50. The '373 and '019 patents are directed to force feedback in computer peripheral devices like joysticks and mice and do not recite the claimed "touch input device" or "touch screen." *See e.g.*, '373 patent at Fig. 7, '019 patent at Figs 3 and 4. Aside from relating to different technology, the "local microprocessor" Immersion identifies from the '373 and '019 patents is separate and independent from the input mechanism, including the input sensors 28 and object 34. '373

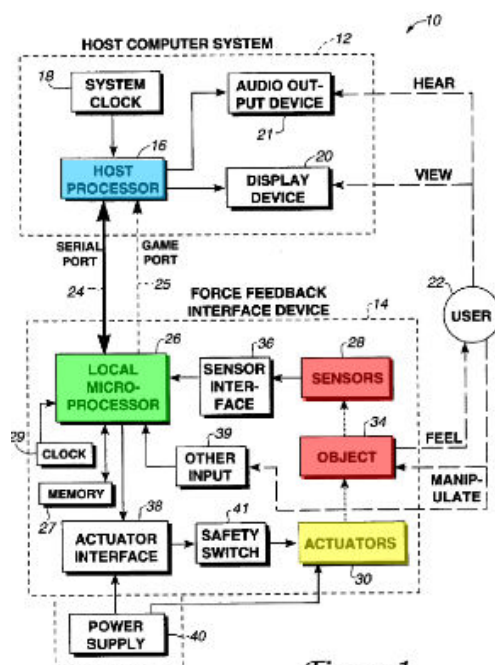


Figure 1

patent at Fig. 1; *see also* '019 patent at Fig. 1. The "local microprocessor" does not become part of the input mechanism simply by residing within the same box. Ex. 1 Wolfe Decl. at ¶ 50. Indeed, the '373 and '019 also place the actuators (yellow) in the same box as the local microprocessor (green) and sensors (red) but Immersion does not claim that actuators are part of the touch screen / touch input device—for example claim 1 of the '846 patent require the actuator be coupled to the touch input device, not part of it. Further, the '373 patent explains that the "local microprocessor" is specific to the input device and acts as an intermediary between the

host processor (blue) and the sensors and actuators in the input device. ’373 patent at Abstract (“A microprocessor is provided local to the interface device and reads sensor data from sensors that describes the position and/or other information.”). The sensors, not the microprocessor, generate the control signals sent to the host computer. ’373 patent at 3:47-49 (“Preferably, the sensor outputs the input control signal to the local microprocessor, which outputs the input control signal to the host computer.”); *see also id.* at 4:67-5:3 (“The local processor can read and process sensor signals as well as output force command signals independently of the host computer, thus saving significant processing time on the host computer.”) Immersion fails to explain (1) how or why the microprocessor taught in the related patents is part of the input mechanism or (2) why one of skill in the art would consider the mechanical input devices of the ’373 and ’019 patents applicable to the touch input devices or touch screens of the asserted patents. Wolfe Decl. at ¶¶ 47-50.

Immersion’s citation to extrinsic dictionary definitions is even more far afield because where “the intrinsic evidence alone will resolve any ambiguity in a disputed claim term . . . it is improper to rely on extrinsic evidence.” *Vitronics Corp. v. Conception, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996). Moreover, extrinsic evidence cannot be used to contradict the intrinsic evidence. *Adv. Fiber Tech. (AFT) Trust v. J & L Fiber Servs., Inc.*, 674 F.3d 1365, 1374-75 (Fed. Cir. 2012).

Here, the extrinsic evidence provided by Immersion fails to address the issue. Immersion cites to four separate definitions of “input device” or “input unit” that make no mention of and offer no insight into “touch input devices” or “touch screens.” Immersion also cites to four more definitions relating to “touch screen” or “touch-sensitive.” Again, these definitions say nothing to suggest that the limitations at issue should include processors that are separate from the touch

input components. Wolfe Decl. at ¶ 52. Immersion’s argument, at its core, is that these dictionaries suggest that touch input devices and touch screens “have local microprocessors (or other circuitry)” to perform their functions. D72 at 14. But, all of the definitions are silent as to the inclusion of a microprocessor and half of them do not even mention touch input. Simply put, the extrinsic evidence relied on by Immersion is, at best, tangential and unrelated to the question at issue. Wolfe Decl. at ¶ 52.

C. “approximately planar touch surface” (’846 patent)

The term “approximately planar touch surface” is indefinite. *See* Wolfe Decl. at ¶¶ 53-62. To be definite a patent “must be precise enough to afford clear notice of what is claimed, thereby ‘appris[ing] the public of what is still open to them.’” *Nautilus*, 134 S. Ct. at 2123 (citations omitted). The claims, when read in light of the specification and the prosecution history, must provide “objective boundaries” for those of skill in the art. *Interval Licensing LLC v. AOL, INC.*, 766 F. 3d 1364, 1371 (Fed. Cir. 2014). Although absolute or mathematical precision is not required, a patentee must identify “some standard for measuring the scope of the phrase.” *Id.* at 1370-71. Immersion fails to meet this standard. Here, the term “approximately planar” is a term of degree and nothing in the record provides any indication of how non-planar a touch surface can be while still being “approximately planar.” *See, e.g., Geodynamics, Inc. v. Dynaenergetics US, Inc.*, 2016 WL 6317181 at *15-16 (E.D. Text. Oct. 25, 2016) (“substantially equal” was indefinite where a person “would not be informed, with reasonable certainty, about when the cleared tunnel depth is no longer ‘substantially equal’ to the total depth of the tunnel.”).¹³

¹³ While Immersion would have this Court find that the case law supports their position, as recently as last week the Federal Circuit invalidated yet another patent for its use of a term of

The claim language itself fails to provide an objective boundary for the term “approximately planar.” Wolfe Decl. at ¶¶ 55-56. The claims provide no basis for what deviation from planar is permitted. The term “approximately planar” is used without further context as to what types of devices would or would not be considered “approximately planar.” The claims thus do not provide an objective boundary of the term “approximately planar.” *Id.*

The specification similarly also fails to provide an indication as to the objective bounds of the term “approximately planar.” *Id.* While the specification repeatedly uses the term “planar” to describe touch pads and touch screens, including for example in the first line of the abstract, the only instance of the phrase “approximately planar” outside of the claims is in the summary of the invention that regurgitates the claim language. ’846 patent at 2:8-12. The specification fails to provide any examples of devices that it purports are “approximately planar.” The specification also fails to provide any measure of how to determine whether a device is approximately planar. Wolfe Decl. at ¶¶ 55-56.

Immersion claims, however, that the ’846 patent uses the phrase “approximately planar” to account for minor variations and describes several embodiments that illustrate an “approximately,” but not “exactly,” planar touch surface.¹⁴ But again, the specification does not use the term “approximately planar” to describe any examples, let alone devices with minor variations. Wolfe Decl. at ¶¶ 57-58. Further, the examples Immersion relies on to purportedly define the metes and bounds of the phrase say nothing about the shape of the touch surface, to which the term “approximately planar” relates. *Id.* Rather, the patent describes other properties

degree. *Intellectual Ventures I LLC v. T-Mobile USA, Inc.*, Dkt. No. 67 at 15-16 (Fed. Cir. Sep. 4, 2018).

¹⁴ By its examples, Immersion fails to mention curved touch screens, a class of accused devices. Immersion fails to address what amount of curvature is permitted while still being described as “approximately planar” nor does the word curve even appear Immersion’s brief.

of a planar touch surface, including its flexibility, texture, and graphics such as lines and borders drawn on the surface. Wolfe Decl. at ¶ 57. The specification at 5:24-30 refers to whether a touchpad may be flexed, not what shape the touchpad is, let alone whether it is approximately planar. *Id.* The specification at 16:45-61 refers whether a touch screen 82 may “move approximately along the z-axis,” not what shape the touchpad is, let alone whether it is approximately planar. In fact, the specification describes the screen 82 as a “planar” touch device not an “approximately planar” touch device. ’846 patent at 15:65-16:3. The specification at 14:20-26 refers to whether a touch pad 16 can include a texture, lines, or borders. But again, touch pad 16 is described as a planar touch device, not an approximately planar device. None of these examples provide any insight into how planar or non-planar the touch surface is. Wolfe Decl. at ¶ 57. Even if these examples could be described as “approximately planar,” notably the specification fails to describe how these examples provide the objective boundary of the term.

Because the specification fails to provide guidance on the meaning of “approximately planar”—a term not used to describe any example in the specification—Immersion is left to argue that other courts have found other terms in different claims and specifications to be definite. Immersion’s arguments are unavailing as those terms are found in different claims with different specifications. *Cf. Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 834 (2016) (because claim construction is based on “subsidiary factual findings,” claim construction is performed on a case-by-case basis).

Immersion first identifies two cases that find the term “substantially planar” as definite, which again is not the claim language here—“approximately planar.” As an initial matter, both cases BOC Health Care and Deere, come before *Nautilus* and thus did not apply the current stricter “reasonable certainty” standard. *BOC Health Care, Inc. v. Nellcor Inc.*, 892 F. Supp. 598,

613 (D. Del. 1995); *Deere & Co. v. Bush Hog, LLC*, 703 F.3d 1349 (Fed. Cir. 2012). Further, in *BOC Health Care*, under the easier pre-*Nautilus* standard, for example, the term “substantially planar” was found definite because the challenged patent described in detail the importance of a low aspect ratio, *i.e.*, substantially planar shape, in oximeter support structures designed to attach to human anatomy. *BOC Health Care*, 892 F. Supp. 598, 613 (D. Del. 1995). Immersion has not identified any such detail in the ’846 patent. Similarly, in *Deere*, again under the easier pre-*Nautilus* standard, the court relied on the applicants adding the claim language to distinguish the shape of their deck cutter design from that of prior art deck cutters, thereby placing discernible limits on the term’s meaning. Here, Immersion has not added the term “approximately planar” to distinguish prior art; rather Immersion simply added it to the ’846 patent claims without explanation.

Immersion’s other cases are similarly unavailing. The courts in *Max Blu* and *Actavis Laboratories* similarly found terms of degree to be definite based on the challenged patents providing a “standard for measuring” the degree that is well-defined based on a “described purpose” of elements described by those terms and their structure relative to other well-defined structures. *Max Blu*, 2016 WL 3688801 at *28; *Actavis Labs. UT, Inc. v. UCB, Inc.*, 2016 WL 3678987 at *13-14. And in *Imperium* and *Verve*, which are both pre-*Nautilus* cases, courts found the terms valid based on identifying “objective benchmarks regarding manufacturing limitations and expected performance” in the intrinsic and extrinsic records. *Imperium*, 920 F.Supp.2d at 763; *Verve*, 311 F.3d at 1119. Such evidence is notably absent in this case with regard to what Immersion asserts as the purpose and function for requiring an “approximately planar” touch surface, which is to be suitable for a user to move their finger on the touch surface and for a position signal corresponding to that touch to be sent to a computer. D72 at 18.

Neither the '846 patent nor the extrinsic record provide any evidence in support of how “approximately planar” a touch surface should be to support this purpose and function, and therefore leaves a person of skill in the art without any idea as to the limits of “approximately planar,” let alone the reasonable certainty required post-*Nautilus*. Wolfe Decl. at ¶¶ 53-62.

Relying on these inapposite cases, which all rely on different claims in different specifications, Immersion asserts one of skill would understand the “that a touch surface [...] should be generally flat to be suitable for its function, for the user to provide input by moving their finger across the surface.” D72 at 18. Notably, the term “generally flat does not appear in the specification at all. Moreover, the assertion that the touch screen merely needs to be “suitable for its function, for the user to provide input by moving their finger across the surface” reads out the approximately planar limitation as even highly curved touch screens can be suitable for the user to provide input by moving their finger across the surface. *Id.* Wolfe Decl. at ¶¶ 58-62. Immersion also argues “[o]ne of ordinary skill in the art would understand the limits of the claim given the purpose of a touch input device including an approximately planar touch surface, which is to ‘input a position signal’ to the computer ‘based on [the] location of user contact on the touch surface.’” D72 at 18. It is not at all clear, however, why a touch input device’s ability to provide a position signal to a computer would depend upon the shape of its touch surface as again, the same could be true for highly curved touch screens. Wolfe Decl. at ¶¶ 58-62. Therefore, despite Immersion’s attempts to cabin the meaning of “approximately planar,” there is simply no reason that a person of ordinary skill would understand at which point a non-planar touch surface would become “approximately planar.” Wolfe Decl. at ¶¶ 58-62. The phrase is therefore indefinite, and to construe it otherwise would “foster the innovation-discouraging ‘zone of uncertainty’” that the definiteness requirement seeks to avoid. *Nautilus*, 134 S. Ct. at 2123.

IV. CONCLUSION

For the foregoing reasons, Samsung respectfully submits that the Court should adopt Samsung's proposed constructions and reject those proposed by Immersion. Samsung's constructions find proper support in the intrinsic record and understanding of a person of ordinary skill in the art, and in the extrinsic evidence identified herein.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that counsel of record who are deemed to have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3) on September 11, 2018.

/s/ Frank J. Albert

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